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ORIGINAL ARTICLES.

CLINICAL REPORTS.*

BY DR. CASSIUS D. WESCOTT.

CHICAGO.

DR. C. D. WESCOTT, of Chicago, said that ever since his pupilage in ophthalmology he has had a prejudice against hopelessly blind eyes, made so by traumatism or inflammation of the anterior segment of the globe. The fact that there is a well-known difference of opinion as to what we should recommend in such cases, is his excuse for bringing up the subject.

As an illustration of what may happen in consequence of retaining an eye blind from traumatism, in spite of the fact that the eye is quiet, not shrunken, not painful, not tender, he recounted the following case: Going through the hospital one morning he saw a man about forty years of age with a red eye. The appearance of the eye at once suggested the presence of sympathetic ophthalmitis. He glanced at the other eye and saw that the cornea was entirely opaque from leucoma adherens. He asked the man when that eye was injured. He said eleven years before, and gave an account of the usual acute, painful inflammation following such an injury, but added that for ten years the eye had been painless and never in-

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flamed. The eye was not red at the time of the examination; it was not tender to the touch; it was not shrunken, and tension was normal. In the sympathizing eye there was double injection, cloudiness of the aqueous, swelling and cloudiness of the iris, with adhesions which could not be broken up with atropin; in other words, a well-marked irido-cyclitis, with the tenderness and pain. He told the patient that the injured eye must be removed at once, although he was fearful that he could not save the affected eye. Enucleation was done immediately; the affected eye was treated to the best of his ability, with rest in bed, fomentations, atropin, leeches, iodides, salicylates, etc., all to no avail. The eye went on to complete blindness. He showed a section of the enucleated blind eye, which showed at the time no evidence of acute inflammation, and the patient said the eye had not been red, or tender, or painful in the preceding ten years.

Shortly after this experience a medical student consulted him, suffering from eye strain. An examination of one eye showed a moderate degree of astigmatism, which slightly reduced vision, and for which a correction was prescribed. The other eye was blind from an injury similar to the injury which destroyed the eye in the previous case. The eye was quiet, free from redness and tenderness, but soft and shrunken. His advice to the medical student, as it has been to all patients similarly afflicted, was to have the useless eye removed. As he could have the benefit of the advice of any number of good ophthalmologists, it was suggested to him that he consult anybody in Chicago with whose name he was familiar. He saw several local men, and only one advised him to have the eye removed. He was told that the eye might some time cause trouble in the other eye; that a glass eye would look better than the shrunken globe, and he would better have it out. The patient yielded to Dr. Wescott's advice and the eye was removed. He has ever since used his remaining eye with much more comfort and ease than he had for years previously. However, that fact might be attributed to the accurate correction which was given for his astigmatism.

He brought these cases before the Association for the purpose of eliciting a discussion, which he hoped would be free. He desired to know what is the practice of those present under such circumstances.

He thought they were all familiar with the discussion of this question before the British Medical Association in 1899, also with the paper by Dr. Ayres, of Cincinnati, before the American Ophthalmological Society in 1900. But it is evident that all were not agreed as to what is the best thing to recommend and to do in the case of hopelessly blind eyes, made so by traumatism and destructive inflammation of the anterior segment of the globe, when they are quiet and free from redness or tenderness. Ophthalmologists are all agreed as to what to advise in case one of these useless eyes becomes red and tender, the seat of the irido-cyclitis. But he brought before the Association the first case as a demonstration of the fact that sympathetic inflammation may follow eleven years after an injury without any evidence of acute inflammation in the injured eye during all that period of time.

There is another class of blind eyes, in regard to which there has been some question. Here is an example: A child, four and a half years of age, was brought to him because it had been discovered accidentally that the child was blind in one eye. Examination showed that the pupil was small; that there were posterior synechiæ; there was slight tenderness, and slight reduction in the tension of the eyeball; there was no ciliary injection. It was impossible to get a full dilatation of the pupil after repeated applications of atropin; but a moderate dilatation was obtained, and looking in he saw a clear lens except for the adhesions between the iris and the lens. He got a dirty-gray reflex from the fundus. It was impossible to say definitely whether this was due to exudate in the vitreous, a detached retina, or a tumor. But the eye was blind. It was a little bit soft; there was evidence of inflammation at the anterior segment of the globe. There was the reflex from the inside, which suggested glioma. He strongly urged the parents to have the child's eye removed at once. They preferred not to have additional consultation, but thought over the matter, and finally came back because the child's eye was a little inflamed. After being urged again to have the eye removed, they consented. The speaker exhibited the specimen, which presented a peculiar condition, a detached retina, which also contained a small glioma, justifying the removal of the globe.

He exhibited another eye, which was removed from an elderly patient, who consulted him first in regard to glasses. At the examination he found that vision was low in one eye. The patient was a busy railroad official, and could not give the time for a mydriatic, but was urged strongly to return soon for a more thorough examination, because the speaker found vision of $\frac{6}{22}$ in one eye, whereas he had $\frac{6}{6}$ in the better one. The patient did not return until the glasses no longer served him, which was about two years. At the first examination ophthalmoscopic appearances, as seen through the small pupil, were unsatisfactory. There was a suggestion of cloudiness as he looked at the disc, nothing more. Two years later the lens was found a little hazy, and there was a little more cloudiness of the disc. He was urged again to permit the use of a mydriatic, and to have a more thorough examination made. Patient said to Dr. Wescott: "Please give me stronger glasses now, and I will come back to-morrow, or as soon as I can, for another examination." He did not return for another year, and then at the solicitation of the family physician, who noticed that the lens was cataractous and crowded into the pupil. The lens was quite opaque; the anterior chamber shallow; no pain; no redness; tension, $+1$; no projection. He told the patient there was a suspicion of intraocular growth; that if there were a tumor, it was malignant, and the eye should be removed. Dr. Wescott then showed the eye, which presented one of those umbrella-shaped sarcomata of the choroid, already passing through the sclera, alongside the optic nerve.

The sequel of the story is the sad part. There was no recurrence of the tumor locally. In eighteen months the patient was ill, and in two years' time from the removal of the eye he was dead. At the post-mortem examination metastases were found in the liver and along the spinal column. Probably if this man had consented to the use of a mydriatic at the first or second examination the beginning of this growth might have been suspected, although that is questionable.

He simply reported the last two cases to bring out a discussion with regard to the removal of blind eyes in which one could not be positive as to the diagnosis.

DISCUSSION.

DR. EUGENE SMITH, Detroit. — It is probably the opinion of every one of us who has had any experience in these cases that the doctor's treatment was the proper thing. There is no question about the propriety of taking out these old blind eyes. We do not know what moment trouble may arise from them. I have seen such cases produce sympathy without inflammatory reaction in the injured eye. Many such eyes when taken out show in the stump little plaques of bone. Sometimes a slow inflammation is going on, and produces trouble in the fellow eye, yet the patients usually dislike to have such an eye removed. I never look upon a blind eye as safe until it is in my cabinet.

DR. ALT, St. Louis. — I wish to remind you that I made the microscopical examination of one of Dr. Ayers' eyes, which he thought were free from inflammatory symptoms, and yet there was bone formation of long standing and also a recent inflammation in spots, just as seen in septic infection; and so, while there was no outside appearance of inflammation, the eye had been and was in a chronic inflammatory state. I suppose we all have a number of such cases on our records, where we removed an eye because we feared it might become dangerous to the fellow eye, and in which we found ourselves justified by the examination of the removed eyeball.

DR. SUKER, Chicago. — Permit me to sincerely and heartily endorse in general the ideas conveyed and expressed in the admirable paper of Dr. Wescott. I thoroughly believe, as does he, that all blind eyes are a source of menace, and may endanger the fellow-eye some time or another. Hence they ought to be removed to insure safety of the remaining eye. Then, too, a large percentage of sightless eyes as the result of injuries are a cosmetic defect, and ought to be removed on that account. With reference to enucleations in children, let me say that I am seriously opposed to doing it unless absolutely compelled by existing pathological conditions; for after the removal of a globe the socket remains behind in size and shape as compared with its fellow, therefore we have a deformity resulting, which certainly is not desirable. The presence of the globe is absolutely necessary to maintain the uniform growth of the socket. No eye in a child should

be enucleated unless the lesion is malignant or sympathetic ophthalmia is liable to come on or is present. I beg to differ with the remarks of Dr. Wescott with reference to the size of the socket. The investigations of certain Canadian surgeons to the contrary notwithstanding. My own personal observation fully confirms the remarks I made heretofore, and one case very recently has impressed upon me the fact that we should be conservative in this direction. It is in the case of a young man who had lost one eye as the result of measles, it having been enucleated when he was two years old. He is to-day a man of twenty-two years of age, unable to wear an artificial eye in size equal to that of its fellow because of a markedly contracted socket. Both the vertical and horizontal diameters of this socket are considerably less than those of its fellow.

DR. WESCOTT (closing discussion). — In reply to Dr. Suker, I would say that recently observations have been made in a number of cases in regard to this question of the shrinking of the orbit or failure to develop after removal in children. Dr. Byers of Canada proves by measurements that so far as the bony orbit is concerned there is no difference in the size of the two sides, even though the globe has been removed in childhood.

OCULAR AFFECTIONS SECONDARY TO SYPHILIS.*

By RANDOPH BRUNSON, M.D.,

HOT SPRINGS, ARK.

OF all diseases of the eye, probably syphilis is responsible for a greater number of ocular affections than any one disease known, so I cannot, in the short time allotted to each paper, go into an exhaustive study of diagnosis, prognosis and treatment, but will confine my remarks to giving you the essentials of diagnosis, and take up each subject as seen from the anterior aspect of the eye. *Secondary syphilitic ulcers* may occur on the eyelids from the breaking down of a gumma originating in the skin or in the subcutaneous tissue and cartilage.

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The most frequent location of the lesion is in the skin, near the lid margin, or below the inner canthus, though it may occur on the conjunctival surface of the lid. It manifests itself usually at a late stage of the disease, and should be classified as a tertiary lesion. The fact that this lesion may occur after all other symptoms of syphilis have subsided necessarily makes a diagnosis rather difficult, especially if it is situated over the lachrymal sac; in this event, dacryocystitis is apt to be confounded with it. It is at times difficult to differentiate between this lesion and epithelioma, as the latter occurs more frequently on the eyelids than elsewhere.

The Conjunctiva is very rarely affected primarily, but inflammation usually occurs when the iris and ciliary body are involved, the œdema seen in these cases being caused by an obstruction of the return flow of the circulation. It has been my good fortune to see one case of gumma of the conjunctiva, this in a man thirty-six years old, who had been infected six years previously. The patient had received treatment for about three months after the initial lesion, and also the following year he had taken more or less treatment, but, as all symptoms of syphilis had long since disappeared, he did not appreciate the necessity of further treatment, and the gumma of the conjunctiva was a result four years later. When I first saw him there was a round, hard mass, the size of a pea, glazed in appearance, and almost white, situated near the sclero-corneal junction, on the outer side of the right eye. A diagnosis was not made at the time, as I was uncertain as to the character of the trouble, and I requested him to return later in the week, though he gave me a history of syphilis. Upon his return a few days later, he told me that he had spent a very uncomfortable night with his eye. Examination disclosed a true broken-down gumma, ulcerated, and the whole surrounding tissue deeply injected. A salve of iodoform was prescribed to be used locally, and subcutaneous injections of the albuminate of mercury were begun at once. After twelve injections, one given daily, the gumma completely disappeared, except a slight contraction of the tissue. For the past five years I have made a practice of examining the conjunctiva of each syphilitic coming into my office; my

object in doing this was to find a mucous patch, but so far my efforts have been in vain; however, I expect some day to find one, as there does not seem to be any reason why they should not be found on the conjunctiva as they are elsewhere.

The Lachrymal Sac and Duct is frequently invaded by syphilis through the nose. In all the cases of stricture of the lachrymal canal due to syphilis which have come under my observation, I have always been able to find the cause in the nose. Syphilitic rhinitis, both acute and chronic, is very common; and when we have great destruction of the nasal bones and membranes, dacryocystitis usually occurs with varying severity.

The Iris and Ciliary Body is perhaps more often invaded by syphilis than any one part of the globe, and syphilis is most often the common predisposing cause of iritis. About 70 per cent. of all cases of iritis are caused by this disease; and I have found, in the examination of the histories of fifteen hundred cases of syphilis, that iritis occurred in over 3 per cent. of all cases. There are a certain number of cases in which the clinical aspect will not give any indication of the constitutional cause of the inflammation, so we are more or less dependent on the history of the case and other data to confirm our diagnosis. In syphilis there are a certain number of characteristic signs in a given number of cases which will allow us at once to recognize the etiology of the disease, the most palpable of which are the papules—small raised masses imbedded in the iris, usually not exceeding three in number, and generally located in the pupillary zone, but they may be seen at the periphery of the anterior chamber or elsewhere. They begin as small points, increasing in size, until finally in a few cases they may attain such size as to touch the posterior surface of the cornea. During this time their color changes from a reddish brown to a lighter shade, and on close inspection we will find numerous small vessels surrounding them. They may disappear completely, or leave small arch-shaped synechiæ. A white line is not infrequently seen at the bottom of the anterior chamber, which is due to the accumulated debris of broken-down condylomata. At the pupillary edge of the iris a rusty hue is sometimes observed, and is probably due to condylomatous masses diffused

throughout the tissues in that position. The posterior synechiae in this form of iritis are suggestive of the etiology of the trouble, as they are broad and dark in color, thus differing in a marked degree from those of rheumatism, for instance, which are thin and light in color. This then is the iritis of secondary syphilis, which is nearly always of a plastic type and has little tendency to recur. In most all cases attachment between the iris and the lens capsule takes place. Hereditary syphilitic iritis appears in the first few years of life and at a much later period. According to Hutchinson, infantile iritis begins about at the average age of five months, affects females more often than males, attacks one or both eyes, and, though generally associated with the pretty free exudation of lymph, is not much marked by redness of the eye. The cornea remains clear throughout the attack, and the ailment is attended by few of the more severe symptoms met with in adults. Most of the cases show one or more of the signs of hereditary taint—as cachexia; psoriasis—like or other cutaneous eruptions; aphthae, or sores about the mouth; condylomata about the anus; or snuffles. When iritis attacks older subjects, it may occur alone or with interstitial keratitis. If alone, the inflammation usually appears in the ciliary body, and spreads to the iris at a later stage; so we have an irido-cyclitis. It is very hard at times to recognize, as patients may not show any signs of hereditary syphilis elsewhere. In other cases we may find associated with it disseminated choroiditis, which is characteristic of syphilis. The iris reacts to light very sluggishly; ciliary congestion, purplish in color and patchy in distribution is present. Sometimes a pupil may get blocked by a grayish layer of debris which seems to cling to the edge of the iris, and punctate deposits constantly appear in the cornea. Secondary glaucoma is a frequent sequel. In hereditary syphilis, iritis assumes the form of a serous irido-cyclitis, and may appear alone or with interstitial keratitis.

Syphilitic Cyclitis may be plastic, serous or gummatous, and is almost invariably associated with iritis. The symptoms are pain, diminished vision due to deposits upon the posterior surface of the cornea, precipitates in the vitreous, exudations between the iris and lens capsule, and ciliary in-

jection. Galezowski, in studying symptoms of syphilis in the ciliary body, says:

"1. Whenever syphilitic iritis is accompanied by punctate keratitis, either chronic or recent, areas of atrophic choroiditis will be found in the ora serrata.

"2. In parenchymatous interstitial keratitis, when due to hereditary syphilis, disseminated plaques, which sometimes reach the posterior segment, are seen in the ora serrata; more often, however, they are confined to the ciliary region.

"3. Diffuse syphilitic choroiditis, with disease of the vitreous, always presents atrophic alterations of the ora serrata, and the opacities of that humor are due to the latter lesion.

"4. In ataxic atrophy of the discs, atrophic and pigment changes occur in the ora serrata.

"5. In syphilitic inflammation of the cerebral or cerebro-spinal nerves, characteristic signs of the disease appear in the ora serrata."

Gallenga reports two cases of syphilitic gumma of the ciliary body, but I have never seen a case. Before leaving the subject of irido-cyclitis, I wish to make a few remarks upon the pathogenesis of primary iritis of syphilis. Brailey says: "Almost all ailments capable of giving rise to inflammation of the iris are intimately associated with if not actually caused by micro-organisms. As regards syphilis, gonorrhœa, tubercle, leprosy, influenza, and relapsing fever, this fact will be disputed by none. Organisms have been described in many fevers—typhoid, small-pox and pneumonia—during recovery from which inflammatory affections of the iris and ciliary body may occur. From all the facts brought to bear on the subject, it would indicate that syphilitic iritis is due to the presence of microbes."

Alexander believes that specific iritis is produced by vascular alterations, and points to the fact that Fuchs and Friedel have shown that the walls of the vessels of the iris are the seat of a gummatous degeneration. Brailey states that the ordinary form of the disease appears as an early secondary symptom during the time when the specific virus is diffusing itself by means of the blood throughout the entire economy. Nodular growths, or condylomata, are present in every case, and are strongly suggestive of local irritation, such

as might well be set up by bacilli deposited from the aqueous humor. Bronner has given particulars of three cases in which concussion of the eyeball was followed speedily by local syphilitic disease. In many cases of irido-cyclitis the patient tells us that the disease was set up by some slight injury to the eyes. A case in question came under my care two weeks ago. Mr. M., age 38 years, was walking along the street, carnival week, and a woman threw confetti into his face, some of which got into his left eye, producing at the time more or less irritation. Two days later he came into my office with a typic case of specific irido-cyclitis. A history of syphilis was obtained, but he had never had iritis before, so it would seem that the bacilli deposited by the aqueous humor were there, and only required some slight irritation to start them working industriously.

Interstitial Keratitis has its origin in syphilis in perhaps 60 per cent. or more of all cases of this variety of disease of the cornea, and the true form is always hereditary. I have never seen a case caused by acquired syphilis, and believe the cases reported as such have simply been produced by irido-choroiditis, which have involved the deep layer of the cornea. Antonelli directs attention to the ophthalmoscopic appearance in congenital syphilis, namely: "A certain degree of pallor, sclerosis of the papilla, a massing of pigment on the papillary border, a certain narrowing of the retinal arteries, and a granular state of the retinal pigment." The symptoms of this variety of keratitis are a grayish discoloration at the periphery or some other part of the cornea. This color soon spreads over the whole of the membrane, which is infiltrated and its surface dull. At first the infiltration is translucent, then it becomes thickened and of a grayish tint, which becomes darker, until the iris is quite obscured. There is ciliary injection without congestion of the conjunctiva. Lachrymation, photophobia and ciliary pain are also present, the latter due to iritis, which is nearly always present in these cases. The deep punctate keratitis of syphilis is situated in the deeper planes of the cornea; the iris, ciliary body and choroid are always invaded. We have numerous small, deep infiltrations appearing in front of Decemet's membrane and in the center of the cornea. These infiltrations may be

come ulcerated in a few cases, and leave very dense and permanent opacities.

A word in regard to treatment of these forms of keratitis; I have never seen a case, however ill-nourished and cachectic the patient may have been, that small doses of mercury did not act in a most satisfactory manner from the very start of the treatment. It seems to exert a tonic influence.

Disseminated Choroiditis is caused by syphilis in perhaps 80 per cent. of all cases. In acquired syphilis the disease makes its appearance in from six to eighteen months, or possibly longer after infection. In hereditary syphilis it comes on in the first three or four years of life, or probably at a later date. In the early stage in the acquired form we see perfectly round white spots of a pinkish hue. The retinal vessels are clearly seen as they pass over the spots. The next change takes place in the center of the spot, which becomes very white; at the same time the pigment ring begins to show itself and gradually becomes darker. The pigment ring and other details now sharpen up, and the enclosed surface appears as a dull, yellowish-white plaque. Sometimes little shreds of lymph are seen during this stage, attached by one edge to the choroidal plaque and undulating in the vitreous. Patches of complete atrophy appear, bounded by a ring of black pigment; the entire surface in this ring is white, or bluish-white, and glistening, and we cannot see any trace of the choroidal vessels or pigment, yet the retinal vessels go across without interruption. The appearance of the fundus between the choroidal spots is usually normal. When the inner layers of the retina become affected, the case is always more or less serious, and a loss of sight may take place either from atrophy of the disc or from detachment of the retina. Iritis, interstitial keratitis and scleritis may make their appearance during the course of the disease. Liquefaction of the vitreous may take place, with partial or complete dislocation of the lens. The occurrence of a group of yellowish-white flecks near the macula, and of dust-like opacities of the vitreous, with changes in the walls of the choroidal and retinal vessels, is nearly always characteristic of syphilis.

Syphilitic Chorio-retinitis is always characterized at first by fine dust-like vitreous opacities and increased redness of

the disc, which latter is surrounded by a halo of grayish discoloration. There is an absence of the patchy condition characteristic of choroidal inflammation alone. This form is frequently preceded by iritis. Night blindness is usually a marked feature. The field of vision rarely shows any marked diminution. In the early stages the diagnosis is quite difficult; there is a smoky appearance of the details of the fundus, however, which is characteristic. The vitreous opacities, increased redness of the disc, and opacities of the surrounding retina, are frequently the only diagnostic signs. Later, as the disease progresses, there is often found overfullness of the retinal veins, with a contraction of the calibers of the arteries and paleness of the disc.

Opacities of the Vitreous are a frequent manifestation of syphilis, and when they have the appearance of fine dust-like particles in the posterior part of the vitreous, we can most always ascribe the cause to chorio-retinitis.

Syphilitic Retinitis, pure and simple, does exist, and it seems to be beyond any question, as such careful and painstaking observers as Leibreich, Mooren and Mauthner have reported cases, while Ole Bull reports its occurrence in half of all the syphilitic cases seen by him.

We have observed in cases of severe iritis more or less irritation in the retina. During the past seven years I have had exceptional opportunities for observing syphilitic diseases of the eye, and in this time I have seen at least three positive cases of syphilitic retinitis without the choroid or iris being involved. The three cases were all due to the acquired form of syphilis, and appeared from four months to seven months after infection. In one case the retinitis was preceded by iritis, but the latter trouble had entirely subsided without injury to the eye. The most remarkable incident, outside the rarity of such cases, was that none of these patients had gotten fully under the influence of mercury, though each had been using inunctions for several weeks previous to the discovery of retinitis. I will not go into the details of these three cases here, as I expect soon to make a further and more elaborate report. In two cases there were dust-like particles in the posterior part of the vitreous, producing a cloudy appearance in front of the papilla. In the

other case this condition was absent. In all there was a grayish opacity of the retina, and particularly along the course of the blood vessels; small, white foci were seen towards the periphery of the retina, developing along the course of the blood vessels, berry-like in appearance and covering the vessels in places. The arteries seemed somewhat thinner, and the veins were much larger than normal.

Syphilitic Hæmorrhagic Retinitis not infrequently occurs in the course of syphilis, and usually in the tertiary period of the disease. Of course, the predominating clinical symptom is a great number of hæmorrhagic spots of different sizes and shapes; dust-like opacities are seen in the vitreous, the retina appears opaque, the arteries are small, and the veins are dark and large. Persistent headache is a constant factor in this disease until the patient is thoroughly under the influence of mercury.

Relapsing Syphilitic Central Retinitis is a very rare affection; personally I have only seen one case in about 2,000 cases of syphilis which have been under my observation. There is a sudden disturbance of vision, which disappears after a few days, to reappear again. These recurrent attacks may keep up indefinitely. During the attacks the vision is very much impaired. At first the vision is very good between the attacks, but later it is reduced. There is seen a slight shadow in the macula, but the papilla and surrounding field remains perfectly clear. Fine white points appear in groups around a grayish macula, and during the intervals of attacks this cloudiness disappears entirely. In my case the trouble was cured after three months of heroic antisyphilitic treatment. Three years have intervened since the case was first seen, and there has not been any recurrent attack.

Transitory recurrent bitemporal hemianopsia may be caused by syphilitic tumors affecting the chiasma, and Oppenheimer regards this form of hemianopsia as a sign of basal syphilitic lesion. Swanzy directs attention to the fact that symptoms caused by syphilitic gummata at the base of the brain are frequently inconstant—that is to say, a nerve which is paralyzed to-day may be found to perform its functions well to-morrow, while the paralysis of some other nerve may continue. In nearly all cases of hemianopsia and blindness brought about by gumma situated somewhere in the

optic tract and chiasma, if the blindness is recent, we can, with a great degree of certainty, hope for useful vision, if not entire relief. This, of course, can only be brought about through heroic antisyphilitic treatment. Diseases of the blood vessels of the retina and iris caused by syphilis, while not very common, yet occur with sufficient frequency to attract attention. Syphilis not only induces inflammatory changes in the retina, as elsewhere, but frequently produces changes similar to those that are seen in senile or albuminuric sclerosis. Blood extravasations, opacities of the vessels, and sometimes retinal opacities are seen. Haab attaches considerable importance, as a diagnostic sign, to syphilitic decrease of the retinal vessels when the opacities of the walls appear as fine disseminated scales upon the arteries. He further states that other similar vessel-degenerations rarely show this appearance. New vessel formation is quite frequent in syphilis, and takes place after hæmorrhages of syphilitic origin.

My time allowance will not admit of my taking up the optic nerve or paralyses of the ocular muscles, so these must be left for some future time.

DISCUSSION.

DR. ALT, St. Louis, Mo.—Dr. Brunson said he had never seen parenchymatous keratitis due to acquired syphilis. This is somewhat astonishing with his material. I am sure I have seen at least four such cases due to acquired syphilis, and I know that others have been reported. I have found, as a peculiarity, that parenchymatous keratitis due to acquired syphilis seems to be confined to one eye.

DR. REYNOLDS, Louisville, Ky.—Syphilis is a disease that has a natural history well known to the profession. Persons who inherit syphilis inherit it at the stage of the violence of the virus in the mother. I have seen children born during the period known as the secondary efflorescence; when the child was twenty-four hours old the secondary efflorescence appeared on its skin, and examination of the mother showed that it had appeared simultaneously in her skin; and in persons who inherit it in that way the peculiarity is inherited for two, three or four generations. When we speak of inherited syphilis, we should consider whether it is latent or advanced syphilis, or whether it was the fresh virus

transmitted through the appearance of the secondary eruption. Now, the mother contracts the disease sixty or ninety days before the birth of the child, and that acquired by the child is the same as the mother's, and there is no difference between the inherited and acquired syphilis in such cases. It can be carried on as far as the running out of the child-bearing period of the mother. All the children may have it. I do not believe any syphilitic mother ever gave birth to a sound child. I am sure Hutchinson's teeth do not appear in subjects of new syphilis. I believe Hutchinson's teeth are peculiar to the second generation. I have reason for believing this. It is impossible to take the time to explain this.

DR. BRUNSON (closing discussion).—I know nothing special to say, except that I am sorry that I have not seen the cases spoken of by Dr. Alt. I hope, if I live long enough, I will. As regards the Hutchinson teeth, I had two cases about four weeks ago whom I know positively to be the children of a syphilitic father. So far as their case is concerned, I have no other data, but I know positively the father had syphilis.

EPICRITIC REMARKS UPON METHODS FOR ESTIMATING THE ECONOMIC DAMAGE FROM ACCIDENTAL INJURIES TO THE EYES.*

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MILWAUKEE, WIS.

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IN writing this paper, the author has in mind certain criticisms that have been or might be passed upon the method of Prof. Magnus, which he has accepted and further elaborated, for estimating the earning ability after accidental injuries to the eyes. He has, therefore, arranged this essay in the form of questions and answers. In our work on "Visual Economics,"† and in the various essays in which Prof. Mag-

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†Visual Economics with rules for Estimation of the Earning Ability after Injuries to the Eyes by Magnus and Würdemann, published by C. Porth, 105 Grand Ave., Milwaukee.

nus and I have either individually written or collaborated, we have endeavored to establish the following proposition:

For all wage earners the economic damage after accidental injuries affecting the vision may be estimated by a scientific examination and calculation.

Regarding this proposition a number of questions have arisen, the most important of which are the following:

Question 1.—Is not earning ability economically synonymous with visual earning ability for the majority of trades and professions?

Answer.—Yes.

It is self-evident that a totally blind person is absolutely incompetent in any trade or profession requiring eye-sight. An economically blind person, *i. e.*, one whose visual acuity is less than 5 per cent. of the normal, is in the same position; for, although he may be able to get about, the vision is not sufficient to allow of even the lowest grade of remunerative work. The vast majority of blind people are not only incapable of earning anything, but are a charge upon their families and upon the community. It is true that there are certain exceptions to the above proposition. There are and have been blind persons who have become poets, machinists, chair-makers, broom-makers, etc., but cases that have become economic factors are so unusual as to be commented upon in the public press and held up as especially talented and well-placed persons, who, by great labor of their teachers and by their own exceptional diligence, have been so highly educated as to be able to meet in a measure with the competition of normal individuals. In the case of an adult suddenly becoming blind, his previous economic education goes for naught, and he at once steps out of the ranks of workers.

Question 2.—Does injury to vision generally necessitate loss of earning powers?

Answer.—Yes.

Nearly all trades and professions require good eye-sight; even the coarsest sort of labor being affected if the vision falls below 50 per cent., and being impossible if it is below .05 per cent. of the normal visual acuity. For finer kinds of work, the visual range is between 75 per cent. and 15 per cent. A

working man who either suddenly or gradually becomes blind loses his job. Aside from the loss of time and wages ensuant upon the injury and convalescence therefrom, poor sight certainly affects the amount and character of work, the quality and output diminishing in a direct ratio to the loss of sight, until a degree is reached where the person cannot work any more. The amount of remuneration for work necessarily depends upon its amount and its quality. This brings us to another question.

Question 3.—What is the economic value of vision?

Answer.—It is equivalent to the wages of the individual.

The pecuniary value of a man's life may, for our purposes, be expressed by the amount of money that he may earn in the course of his life. If we accept our first answer, in which we stated that the visual earning ability was economically synonymous with the full earning ability, we may value vision with the pecuniary valuation of life.

We may say that "sight is priceless," and "vision is not a commodity that may be purchased or disposed of in the market;" for there are few persons who would voluntarily allow of the infliction of any unnecessary bodily injury for any compensation whatever; but such matters of ethics do not fall within the pale of our present discussion. We are dealing with the established economic fact that injury to vision of more than a certain extent necessitates limitation of the amount and character of work. Following upon this, it is easily deduced that the amount of wages received would be less.

Question 4.—The question now arises, how are we to reckon the loss of wages?

Answer.—From experience in examining large numbers of individuals, it has been found that the loss of vision of a certain amount results in a certain effect upon the earning ability of the individual. We may also deal with futurities, and figure the probable loss in any given case by finding the percentage of damage to the normal function, and apply our reasonings to the calculation of the probable pecuniary loss. In order to do this, we have accepted the visual earning power as equivalent to the total earning power.

We must next see if the visual act can be divided into factors, and estimate the relation of these factors.

Question 5.—Can we build up a working mathematical formula for this purpose?

Answer.—Yes.

First, and most important, of the visual factors is the central visual acuity; next in importance is the visual field; and next the ocular motions. There are secondary factors comprised in the act of seeing that are physically of importance, which are the cerebral vision, the sense of light and color, and that of adaption. Accidental injury limited exclusively to any one of these factors is certainly not recognizable; for where such takes place, other portions of the visual act, especially the visual acuity, and the field are implicated. Therefore we include the secondary functions when we treat of injuries to the three primary factors of vision.

These are not of equal value, the visual acuity being the most important, the visual field next, and the ocular musculature being of less importance. We have established a formula for the normal act of seeing in which these factors have been given their relative valuations. In relating this to the earning ability, we have to add another factor of great importance, which is the ability to use the vision for gainful purposes—*i. e.*, the ability to compete in the labor market. We consider this portion of our formula to be made up of the several factors of sight expressed in their mathematical relations, and have added this to our formula in such a way that an individual expression may be given to each case. This is a variable quantity, as it not only depends upon the ability to use the eyes in working, but upon the opinion of the employer as to the effect of the injury upon the amount of work he may expect to get out of the laborer.

It is well known that we can exactly estimate the visual acuity by the Snellen standard of test letters; that we can measure the visual field by the perimeter; and that we can value the amount of ocular muscle defect.

It has been said that our methods were too complicated for practical use. But the act of vision and its relation to earning is of complicated nature. We cannot make exceedingly simple formulæ without doing damage to nature and to truth. The reasons for our opinions as to the relations between the visual factors and the ability to compete are too

many and too long to enter into here. Suffice it to say, that we believe we have established a mathematical formula for the ocular earning ability which agrees very closely with results that have been obtained from examination of a large number of cases, especially those having ocular defects occurring from accidents. This mathematical expression is as simple as the complex act of seeing and of competing in the labor market will allow; and, when helped out by our mathematically exact tables and diagrams, is reduced to a simple example in multiplication that any educated person can readily and quickly calculate. For this portion of the subject, I refer to our work on "Visual Economics" and the various essays which have been published by the authors.

Question 6.—If such a formula may be made, how may we express the amount of damage to the working powers of the individual so that it may be understood by the ordinary jury and used as a basis upon which to adjust claims for damages to vision resulting from accidents to the eyes?

Answer.—This may be done both by expressing the percentage of loss to the earning ability and by calculating its pecuniary effect upon the prospective wages of the workingman.

In dealing with money matters a number of other questions arise.

Question 7.—Can we figure upon the probable duration of working life and consequent remuneration therefor?

Answer.—Yes.

Upon such probabilities have there been established numerous industrial corporations—as the life, fire and accident insurance corporations—which have been so successfully managed from both the philanthropic and pecuniary standpoints.

Question 8.—In the case of an accident involving damage to the earning ability, is not the prospective loss greater to a young man than to an old one, and is not this loss dependent upon the age of the individual as well as the amount of corporal damage?

Answer.—Yes.

But little reflection shows us that an old man may have but a few years more of working life, for the competition of younger men and the natural infirmities of age and death, as well as the reward of rest in old age which comes to success-

ful working or business men, will bring an end to his working life, even though he lives to the Biblical limit. We have, therefore, established an average age at which working life is supposed to cease. Therefore, in our calculations as regards probable pecuniary damage, not only the percentage of loss to the earning ability is calculated, but this is also applied to the probable future earnings of the workingman figured from the date of the accident to the probable termination of his working life.

Question 9.—Can we figure upon the damages to ambition, to treasured hopes and plans?

Answer.—Certainly not. The probabilities of successful achievement are too small. The ambitions of our youths are so varied: thousands of young persons are doing, temporarily, more or less low grades of work, with the expectation of some day getting work of a higher class which may be more remunerative. By far the greater number remain in the same station of life in which they started. There are thousands of young men whose ambition lies between that of the President of the United States to the turnkey of some provincial jail. In our profession, it is the ambition of one man to be one of the foremost surgeons or physicians, while others have to be satisfied with practicing in some obscure village. We can only consider the facts that have existed before the accident and the station of life in which the working man may have been at that time. To this may be added the probable working life and percentage of damage to the earning ability.

Question 10.—If we can establish the foregoing, what would be the legal standing of the subject, and what should be the relation of the probable economic damage to pecuniary compensation for the results of accidents to the eyes?

Answer.—Such expression would not be established as a fact, but would be a matter of expert opinion and be considered as such in law.

We physicians are not only called into court to give evidence as to questions of fact, but also for our opinions upon probabilities. For instance, we may testify that a certain client has become totally blind, or that his visual acuity or visual field has been reduced to a certain amount; such a

statement is accepted as a fact; but when we enter into the actual effect or probable result of the diminished vision upon the working or earning ability, there is always the question of personal opinion. If, however, by the acceptance of rules such as we give a certain general opinion may be established, it will be accepted in the courts as the highest and best opinion obtainable, and will be almost as strong a statement as an actual fact, and due weight will be given to it in the instructions to the jury.

We are not living under a paternal government such as obtains in Germany, in France, and even in England, where every working man that may be injured is supposed to receive a certain compensation, depending upon the amount of damage to his earning powers. In America every case is more or less a law unto itself, the damage allowed depending upon precedent, the amount of pain and mental anguish, and upon philanthropic or punitive reasons, as well as upon evidence as to physical damages that may have been sustained. Therefore, even though we may scientifically establish the percentage of economic damage and express it in pecuniary terms, the other factors will no doubt be considered by the courts. We hold, however, that the economic damage should be the basis upon which claims should be allowed, modified by the importance of the other factors.

By reckoning these factors, we think that we can estimate in a manner fair and just to all parties the amount of damage to the earning ability which may have occurred as a result of accidental injuries to the eyes, and that this should be considered the principal factor in the settlement of legal claims.

AMERICAN REFERENCES ON SUBJECT OF VISUAL ECONOMICS.

1. *Magnus and Würdemann*. "Visual Economics with rules for Estimation of the Earning Ability after Injuries to the Eyes," 150 pp., published by C. Porth, 105 Grand Ave., Milwaukee. 1902.
2. *Hansell, Howard F.* Estimation of the Amount of Injury to the Business Capacity of the Individual from Partial or Complete Loss of Vision. *Annals of Ophthalmology*. 1900.
3. *Würdemann, H. V.* The Ecomic Limitations of the Visual Acuity in Various Trades and Professions. *Journal of the American Medical Association*. Feb. 8, 1902.
4. *Würdemann, H. V. and Magnus, H.* "The Economic Valuation of Vision." *Annals of Ophthalmology*. April, 1901.

DISCUSSION.

DR. EUGENE SMITH, Detroit.—The point has risen in my mind, and I wish to ask Dr. Würdemann if the loss of one eye always interferes to the extent of 50 per cent. How many of us know of cases and have friends who have gone through life, with an earning ability equal to any, with one eye. I am not finding fault, and I hope all members will get his book, if for no other reason than to protect ourselves from the lawyers. The chief point is that it is so difficult to compute the loss of earning ability where one eye alone is lost or injured. I believe a man's earning ability in almost any profession is equal with one eye as with two. This is simply based upon experience with friends. I have known a good many who have lost one eye during infancy or childhood who have gone through life with better earning capacity than I have had with two good eyes. I would like to see how the doctor gets around that.

DR. WÜRDEMANN (closing).—*Earning* ability is not synonymous with *working* ability. Any of you gentlemen it will affect if your clients know you have only one good eye. They will go to an oculist who has two good eyes. With a working man it is still worse. He is as well and can do about as much work with one eye as with two. His monocular vision is almost as good as binocular vision, and in our formula we do not modify the visual acuity on that account. But if you want to employ a skilled workman for a delicate piece of work, you will give the preference to a workman who has two good eyes. The man with only one good eye is injured in his ability to compete. The German Imperial office used to allow 50 per cent. for one eye. In the lower classes of trade the damage amounts to 18 per cent. after the first year. In the first year, on account of the greater trouble in getting work, etc., it is about 24 per cent. In the higher classes of trade it is 30 per cent. the first year, and 20 per cent. thereafter. To the man losing one eye the damage to his *earning* ability—not his *working* ability—ranges from 18 to 30 per cent.

MEDICAL SOCIETIES.

FIFTY-THIRD MEETING OF THE AMERICAN MEDICAL ASSOCIATION.*

Held at Saratoga Springs, N. Y., June 10 to 13, 1902.

SECTION ON OPHTHALMOLOGY.

(Continued from last issue.)

SECOND SESSION.

THE REMOVAL OF FOREIGN BODIES FROM THE EYE.

O. HAAB (Zürich, Switzerland) spoke favorably of the Desmarres capsule forceps, saying that they caused but a slight wound and injured the vitreous as little as possible, but they were only of use when the splinter was free and visible in the vitreous. That we possess valuable aids in the diagnosis of foreign bodies in the X-ray and sideroscope, but they required much skill and patience in their use, and could be almost dispensed with by use of the large magnet. He described in detail the use of the large magnet in the extraction of various foreign bodies from the eye, which with him, in 165 cases, had only failed 23 times, and in these cases the failure was due to the body being too firmly imbedded in the posterior wall of the globe or having pierced it completely; situated in the ciliary body; having produced fibrinous purulent exudate; or had been healed over for months or years. He had never observed any risk in its use, and did not deem it necessary to have three different sizes, as advised by Hirschberg, the large magnet answering for all cases. In this country the large magnet was used almost immediately upon its introduction, and with success.

FOREIGN BODIES IN THE EYE.

WILLIAM M. SWEET (Philadelphia) said the majority of injuries were now due to iron or steel, but occasionally small shot, pieces of copper, glass and coal are the cause. That a small wound of the cornea, with opacity of the lens, is almost

*American Medicine.

positive proof that the foreign body has passed into the interior of the eyeball and been retained; when there is cloudiness of the media, the X-rays are the most accurate means of diagnosis; excellent results have been secured with the sideroscope, but owing to its delicacy it has a limited usefulness. The low power of the Hirschberg magnet necessitates the introduction of its point into the vitreous, and therefore the large magnets are now more generally used. A chart was given showing the attracting power of the different magnets, and demonstrating the superiority of the Haab magnet. If the wound of entrance had closed, it was better to extract through an opening in the sclera. The after treatment should consist of cold, supplemented by atropia.

A REPORT OF SOME CASES OF FOREIGN BODIES IN THE EYE
WHERE HAAB'S MAGNET WAS USED.

MYLES STANDISH (Boston) reported a series of eight cases, in which a long, slender bit of steel was driven through the cornea and lens, and removed without making an incision in the sclera. The undesirability of such an incision is due to the danger to the choroid and retina. In all these cases, by use of the Haab magnet, the body was compelled approximately to retrace the tract by which it entered. The method of procedure was to bring the point of the magnet almost in contact with the cornea, with its axis in a projection of the line of entrance.

Discussion.—KIPP (Newark) said the use of the large magnet was indeed a happy thought, and the man who conceived the idea should be held a benefactor of mankind. He related a case in which by reversing the poles of the large magnet he had successfully removed a large piece of iron that could not be turned otherwise.

KNAPP (New York) said the usefulness of the Haab magnet was self-evident, and agreed with Kipp that Haab should be considered a great benefactor to mankind. He referred to the danger of extracting foreign bodies through the sclera, and preferred to bring them out through the original wound of entrance.

WOODRUFF (Joliet) had had 25 cases of injury by steel; located and removed by a large magnet in 22 cases.

SHERMAN (Cleveland) said the cost of the Haab instrument precluded its use in many instances, and spoke of one he had, made by the Brush Company, which worked very well.

WIENER (St. Louis) spoke of a case in which he had failed to remove body with Haab magnet, and had to make an incision and extract with small magnet. He had had a magnet made after the Haab pattern at a cost of less than \$50.

HOLT (Portland) preferred to extract through the sclera, and had operated on cases where the eye was in a state of suppuration, and seen the suppuration cease.

LIPPINCOTT (Pittsburg) said, in his observation, many patients had reason to be grateful to Professor Haab for having devised the best method for removal of foreign bodies from the eye. He said all the other magnets were really children of Haab's. The best method of diagnosing was by the Röntgen ray, but the difficulties of using it were great.

ELLETT (Memphis) reported a case in which the foreign body had passed through the lens without producing cataract, and another where evisceration had to be done.

RISLEY (Philadelphia) reported a case where, not having a Haab magnet at hand, he had with a Graefe knife made a meridional incision just to the nasal side of the inferior rectus, and placing the tip of a Hirschberg magnet in the small wound withdrawn the body. No reaction whatever.

WOODS (Baltimore) reported a case in which the proceeding described by Risley was used, the tip of a Johnson magnet being used; no reaction; discharged; but came back in six weeks with detachment of retina.

APPLEBY (St. Paul) said one should pay especial attention to the location of the foreign body in these cases, and for that purpose should employ the sideroscope and X-ray.

GREENWOOD (Boston) reported a case in which a piece of steel was located in about the same position as that spoken of by Risley; removed by incision in sclera; three years later patient has ²⁰/₁₅, and lens absolutely clear.

SWEET, in closing, said that any body having the power to enter the eye could be located by the X-ray, and showed some very minute bodies that had been located in that way.

HAAB, in discussing the remarks, thanked the members for

the cases related and the approval of his magnet. He said it was often of advantage in nervous patients to use the magnet from behind. He said the first rule should always be to let alone the vitreous.

PROCEEDINGS OF THE OPHTHALMOLOGICAL
SOCIETY OF THE UNITED KINGDOM.*

DAVID LITTLE, M.D., F.R.C.S.E., President, in the Chair.

Thursday, June 12, 1902.

SECONDARY CARCINOMA OF THE EYE.

DR. ROCKLIFFE (Hull) read notes of the termination of his case exhibited to the Society in July, 1901. The left eye was excised on July 12th, and the specimen and slide kindly mounted and prepared by Mr. Lister, then pathologist of the Royal London Ophthalmic Hospital, show the cornea healthy, with rather shallow A. C., and the angle narrowed, but not closed; the lens is apparently normal and *in situ*; the vitreous has entirely disappeared. Situated at the posterior part, and extending from the optic nerve to the ciliary processes, was a large, flat, unpigmented tumor (which at the optic nerve appeared to be from about 2 to 3 mm. thick, and gradually tapering in thickness as it advanced forward) forming in the choroid, which in the anterior half appeared to split into two portions, the greatest portion being internal to the growth. The retina was completely detached. Microscopically, the growth was seen to be in the choroid, and consisted of numerous round cells grouped together with connective tissue, which was of small amount compared with the former. Hardly any pigment cells were discernible, except in the anterior half of the choroid, where they lay internal to the new growth, and from which they appeared entirely free. The vessels were very few, and entirely confined to the connective tissue network. The optic nerve had also several tumor cells scattered among the fibres. The sclerotic also at the posterior portion was sparsely infiltrated with the same. There were several areas of degeneration in this growth. July 30th, right

*British Medical Journal.

eye V. $\frac{6}{18}$, detachment increased, shooting pain around eyeball. August 10th, under her local medical attendant, Dr. Morison, with an attack of pleurisy, from which she appeared to recover; later she had stiffness, swelling, and pain in her left leg. Under atropine the optic disc was congested, and the whole retina swollen, with increased detachment. The patient died on November 30th, the most troublesome symptom having been vomiting and paroxysms of coughing, and her vision had gradually got worse, but she had little or no pain in her head or eye. She had also continual constipation, and was in a comatose condition the last two days of her life. To sum up, it would appear that secondary carcinoma of the eye more usually followed injury to the breast, affecting females rather than males, between the ages of 40 and 60, and that the tumor was flat, and consequently the tension not increased; and that the duration of life, although varying after the first symptom of the eye becoming affected, usually did not exceed two years.

MR. HOLMES SPICER said he had recently seen a patient whose breast was removed two years and a half ago for scirrhus. She had two separate detachments of the retina, but the tension was not raised. The eye was removed, and a flat growth—a metastatic carcinoma—nowhere more than 3 mm. thick, was seen in the choroid, and quite separate from the retina.

MR. HILL GRIFFITH thought that the flat appearance of these growths was possibly not peculiar to them; for if sarcomata were seen at an early stage, he thought that they also would be flat.

MR. DEVEREUX MARSHALL thought that the disease was probably not so rare as one would imagine. So often it happened that when a patient was in any advanced stage of cancer the fact that the eye showed signs of failure was not taken much notice of, and doubtless many cases were missed in this way. He quite agreed with Mr. Hill Griffith that in very early cases of sarcoma the growth was flat, and he had seen such, but the whole tendency of these metastatic carcinomata in the eyeball was to extend sideways, and not to grow forward like a sarcoma, and in this way the two were never very much alike.

DR. ROCKLIFFE briefly replied.

LEPROUS ULCER OF CORNEA.

DR. ROCKLIFFE also read notes of a case of leprous ulcer of cornea in a young man, a native of the West Indies. He exhibited prints of skiographs showing the various bone changes taking place in this disease; he also referred to the obstinacy of the corneal ulcer to treatment, in spite of frequent galvano-cauterization, etc.

DEATH FROM ATROPINE POISONING.

DR. ROCKLIFFE also read notes of a case of supposed death from atropine poisoning. The patient was a very delicate-looking child, aged 10 months, who had suffered from convulsions most of this time. He first of all put three drops of a 1 per cent. solution of atropine in the eyes, which did not dilate the pupils fully. More atropine was applied, but during the thirty hours which elapsed from the first using of the atropine only seven drops were used. The temperature rose to 105.6°. The pulse was uncountable, and the respiration 72; the skin was red, and the lips had a quantity of mucus about them. In this state the child died.

BILATERAL CONGENITAL MICROPTHALMOS.

DR. BRONNER (Bradford) read notes on two families with bilateral congenital microphthalmus and cataract. In one case the father and four out of eight children were affected; these were numbers 3, 5, 6 and 8. The eyes of the mother were normal. There was no consanguinity or history of syphilis. In the other cases the mother and all the four children were similarly affected. The parentage of the children was somewhat uncertain. The mother of the woman was said to have had similar eyes.

DR. ARGYLL ROBERTSON had once operated on a boy with this condition, the father having similar eyes, and having previously undergone a successful operation for the removal of his cataract. In both fair vision resulted.

MR. MULES thought that in such cases there was usually congenital syphilis.

MR. PRIESTLY SMITH said there was no hard-and-fast line to be drawn between the small eye and the microphthalmic

one. If the diminished size was very marked, probably the lens was small and opaque; but if the lens was clear and full-sized then glaucoma was almost certain to result. On the whole, he thought that the former variety were less liable to become blind than the latter.

MR. FROST thought that those having a congenital coloboma were less liable to glaucoma.

PROFESSOR FUCHS had seen but one case. In this, a man who had lost an eye from acute blenorrhœa had a child who suffered from microphthalmos on the same side.

DR. BRONNER replied.

COLLOID DEGENERATION OF THE CONJUNCTIVA.

MAJOR H. HERBERT, I.M.S., described a case of what had been wrongly named "amyloid" or "hyalin" degeneration. Similar changes had been found rarely in the skin of old people, and had been correctly described by dermatologists as "colloid" degeneration. The ocular conjunctivæ only were affected, the palpebral portions being occupied by scar tissue from old trachoma; a swollen translucent fold overhung the upper third of each cornea. The change consisted mainly in a swelling and breaking up and rearrangement of white connective tissue fibres (collagen) and also of elastic fibres. In the deeper tissues the new material became molded into rounded and elliptical blocks, probably by constant stretching and movements of the fold. In the centre of many of these blocks plasma cells were enclosed, more rarely smaller masses of colloid or blood pigment. Other blocks with central cavities represented the remains of blood vessels. On the other hand, other blood vessels had undergone rarefaction of their walls, instead of colloid thickening and occlusion. Many of the blocks had connective tissue cells closely applied to them. Special staining with acid fuchsin and acid orcein showed imbedded in many of the blocks the remains of white connective tissue fibres, and in others elastic fibres. But the change was so advanced in the tissue examined that it was only close beneath the epithelium, in a layer of adenoid tissue, that the transition from collagen to colloid could be followed. In this layer a few true hyalin balls were to be found; and both here and in the deeper tissues were many golden pigment granules,

the remains of hæmorrhages. Here and there some of the deeper colloid had coalesced into large and rather firm opaque waxy masses, 2 or 3 mm. or more in diameter. In the central portions of these masses there were no blood vessels, and only the remains of cells, consisting of groups of small particles and larger spheres with some affinity for hæmatoxylin. There were still a few bands of white connective tissue remaining, but they were degenerating on lines rather apart from the primary colloid change; also some free elastic fibres, mostly clumped near blood vessels. Some of the latter showed basophile degeneration—elacin. The only approach to amyloid reaction found was a faint indigo blue with iodine and sulphuric acid in a few of the blocks; all alike stained pale brown with iodine alone, and none of them gave any trace of pink with methyl and gentian violet.

CARD SPECIMENS.

The following were shown: Major M. T. Yarr: Indirect Contusion Injuries of the Left Eye, Resulting in Blindness, Following a Mauser Bullet Wound of Both Superior Maxillary Regions. Mr. J. H. Parsons: Sections of a Case of Microphthalmos. Dr. Leslie Buchanan: Traumatic Separation of the Ciliary Body from the Sclera. Mr. Stephen Mayon: (1) Rodent Ulcer of the Face Treated by X-rays; (2) Case of Trachoma Treated by X-rays. Mr. Arnold Lawson: Partial Embolism of the Central Artery of the Retina in a Lad Aged 18. Mr. Holmes Spicer: (1) Thrombosis of Retinal Veins, with Cystic Degeneration of the Retina and Yellow Spot; (2) Vessels of New Formation on Anterior Surface of Iris.

MOLLUSCUM CONTAGIOSUM.

Charles J. White and M. J. Robey, Jr., (*Journal of Medical Research*, April), from a careful study of several hundred sections of as many different tumors, and from a study of the literature of the subject, conclude that the change is not a colloid or hyaline degeneration, but rather an extraordinary metamorphosis of rete cells into keratin. No one has ever demonstrated a parasitic body in the growth.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.
ST. LOUIS, MO.

ATROPHY OF THE OPTIC NERVE AND ITS TREATMENT BY THE SUBCUTANEOUS INJECTIONS OF STRYCHNINE.

Hasket Derby (*Boston Medical and Surgical Journal*, May 15) gives his experience in the treatment of optic nerve atrophy by injections of strychnia in increasing doses. Results were encouraging in about 30 per cent. The author's conclusions are as follows:

1. Strychnia is a stimulant to the optic nerve. Even in normal eyes it slightly increases the acuteness of vision and widens the visual field. These effects are temporary (Fuchs).

2. In certain cases of optic nerve atrophy its local subcutaneous injection has, to say the least, coincided with an arrest in the progress of the disease, and has been followed by a somewhat increased acuteness of vision. Whether these effects are temporary or permanent, time and fuller statistics will show.

3. In a progressive case of this disease it is clearly our duty to state the above facts to the patient, and allow him to take the treatment if he is so inclined.

4. The strychnia should always be administered in the temple, and by subcutaneous injection.

A NOTE ON ADRENALIN.

Ch. Amat (*Bulletin General de Therapeutique*, June 23) thinks that adrenalin is the most powerful vaso-constrictor known. It is a powerful hæmostatic, acting properly, and its effects lasting from twenty minutes to four hours. It rapidly relieves pain in all forms of keratitis, and even in glaucoma, where it reduces the ocular tension, thus lessening the danger of hæmorrhage after an iridectomy. It will reduce the swelling of the lachrymal canals, and allow the passage of a liquid, thus avoiding the necessity of using a sound. Amat thinks it is as valuable a therapeutic agent as cocaine.